

## AMENDMENTS

### In the Claims

Please amend claims 1, 13, 25, 27, 36, 45, and 52 as shown herein.

Claims 1-56 are pending and are listed following:

1. (currently amended) A method, comprising:

receiving multiple streams of audio wave data in response to requests from  
audio wave data consumers;

dynamically ~~defining~~ generating a plurality of logical buses in response to a  
need associated with receiving the streams of audio wave data, the logical buses  
each corresponding to an audio wave data consumer;

assigning at least one of the multiple streams of audio wave data to a  
plurality of the logical buses;

routing any audio wave data stream assigned to a particular logical bus to  
the audio wave data consumer corresponding to said particular logical bus; and

dynamically ~~deallocating~~ releasing at least one of the logical buses when no  
longer needed to route a stream of audio wave data.

2. (original) A method as recited in claim 1, further comprising  
generating the streams of audio wave data in response to receiving a synthesizer  
instruction.

1           3.     **(original)**    A method as recited in claim 1, wherein a plurality of  
2 audio wave data streams are assigned to at least one of the logical buses.

3  
4           4.     **(original)**    A method as recited in claim 1, wherein each logical  
5 bus corresponds to a single audio wave data consumer.

6  
7           5.     **(original)**    A method as recited in claim 1, wherein at least two of  
8 the logical buses correspond to the same audio wave data consumer.

9  
10          6.     **(original)**    A method as recited in claim 1, wherein the audio  
11 wave data consumer is a data buffer that performs an action of buffering audio  
12 wave data prior to outputting the audio wave data.

13  
14          7.     **(original)**    A method as recited in claim 1, wherein the audio  
15 wave data consumer performs an action of effects-processing the audio wave data  
16 prior to outputting the audio wave data.

17  
18          8.     **(original)**    A method as recited in claim 1, wherein said assigning  
19 comprises creating a data structure and correlating the logical buses with  
20 corresponding audio wave data consumers.

1           **9. (original)** A method as recited in claim 1, wherein said assigning  
2 comprises creating a data structure and correlating the logical buses with  
3 corresponding audio wave data consumers, and wherein said routing comprises  
4 referring to the data structure.

5  
6           **10. (original)** A method as recited in claim 1, wherein said defining  
7 comprises instantiating a programming object to receive the multiple streams of  
8 audio wave data.

9  
10           **11. (original)** A method as recited in claim 1, wherein said defining  
11 comprises instantiating a programming object to receive the multiple streams of  
12 audio wave data, and wherein said routing comprises calling an interface of the  
13 programming object.

14  
15           **12. (original)** One or more computer-readable media comprising  
16 computer-executable instructions that, when executed, direct a computing system  
17 to perform the method of claim 1.

1           **13. (currently amended)**       An audio generation system, comprising:  
2           a plurality of audio wave data sources that produce one or more streams of  
3           audio wave data;

4           a plurality of audio wave data consumers that receive one or more of the  
5           streams of audio wave data;

6           a software component that dynamically ~~defines~~ generates logical buses in  
7           response to a need associated with receiving the streams of audio wave data and  
8           that ~~deallocates~~ releases at least one of the logical buses when no longer needed,  
9           the logical buses corresponding respectively to the plurality of audio wave data  
10          consumers; and

11          the software component configured to receive one or more of the streams of  
12          audio wave data at each of the ~~defined~~ generated logical buses, and route any  
13          audio wave data that is received at a particular logical bus to an audio wave data  
14          consumer corresponding to said particular logical bus.

15  
16          **14. (original)**    An audio generation system as recited in claim 13,  
17          wherein each logical bus corresponds to a single audio wave data consumer.

18  
19          **15. (original)**    An audio generation system as recited in claim 13,  
20          wherein at least two of the logical buses correspond to the same audio wave data  
21          consumer.  
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1       **16. (original)**   An audio generation system as recited in claim 13,  
2 wherein a plurality of audio wave data streams are assigned to at least one of the  
3 logical buses.

4  
5       **17. (original)**   An audio generation system as recited in claim 13,  
6 wherein an audio wave data consumer is a data buffer that buffers one or more of  
7 the streams of audio wave data.

8  
9       **18. (original)**   An audio generation system as recited in claim 13,  
10 wherein an audio wave data consumer effects-processes one or more of the  
11 streams of audio wave data.

12  
13       **19. (original)**   An audio generation system as recited in claim 13,  
14 wherein an audio wave data consumer is a data buffer that buffers one or more of  
15 the streams of audio wave data and effects-processes the buffered audio wave  
16 data.

17  
18       **20. (original)**   An audio generation system as recited in claim 13,  
19 wherein the sources are software components.

20  
21       **21. (original)**   An audio generation system as recited in claim 13,  
22 wherein the sources are programming objects having interfaces that are callable by  
23 a software component to generate the one or more streams of audio wave data.  
24  
25

1           **22. (original)**   An audio generation system as recited in claim 13,  
2 wherein the sources include one or more synthesizers that generate the one or  
3 more streams of audio wave data.

4  
5           **23. (previously presented)**   An audio generation system as recited in  
6 claim 13, wherein the sources include a plurality of synthesizers that generate the  
7 one or more streams of audio wave data, wherein at least one of the synthesizers  
8 generates a plurality of outputs, and wherein respective ones of the outputs are  
9 provided to different respective logical buses.

10  
11           **24. (original)**   An audio generation system as recited in claim 13,  
12 wherein the sources include a plurality of synthesizers that generate the one or  
13 more streams of audio wave data.

1           **25. (currently amended)**       An audio generation system, comprising:  
2           a synthesizer that generates multiple streams of audio wave data;  
3           a plurality of audio wave data consumers that receive the multiple streams  
4 of audio wave data;

5           a software component that ~~defines~~ dynamically generates a plurality of  
6 logical buses in response to a need associated with receiving the multiple streams  
7 of audio wave data, an individual logical bus configured to correspond to an audio  
8 wave data consumer, receive one or more of the streams of audio wave data, and  
9 route the one or more streams of audio wave data to the audio wave data  
10 consumer; and

11           wherein the synthesizer is configured to route at least one of the streams of  
12 audio wave data to different ones of the logical buses.

13  
14           **26. (original)**       An audio generation system as recited in claim 25,  
15 wherein a second logical bus is configured to correspond to the audio wave data  
16 consumer, receive one or more additional streams of audio wave data, and route  
17 the one or more additional streams of audio wave data to the audio wave data  
18 consumer.

1           **27. (currently amended)**     An audio generation system as recited in  
2 claim 25, wherein the synthesizer has a channel that generates a stream of audio  
3 wave data and that is configurable to route the stream of audio wave data to the  
4 individual logical bus, ~~and wherein the software component is configured to define~~  
5 ~~the logical buses dynamically in response to a need associated with receiving the~~  
6 ~~streams of audio wave data,~~ and is further configured to dynamically deallocate  
7 release at least one of the logical buses when no longer needed.

8  
9           **28. (original)**     An audio generation system as recited in claim 25,  
10 wherein the synthesizer has a channel that generates a stream of audio wave data  
11 and that is configurable to route the stream of audio wave data to a plurality of the  
12 logical buses, and wherein the logical buses receive the stream of audio wave data  
13 and route the stream of audio wave data to a plurality of corresponding audio wave  
14 data consumers.

15  
16           **29. (previously presented)**     An audio generation system as recited in  
17 claim 25, wherein the synthesizer has a plurality of channels that each generate a  
18 stream of audio wave data and that are configurable to route at least one of the  
19 streams of audio wave data to a plurality of the logical buses, and wherein the  
20 logical buses receive the streams of audio wave data and route the streams of  
21 audio wave data to a plurality of corresponding audio wave data consumers.



1           **30. (original)**   An audio generation system as recited in claim 25,  
2 wherein the synthesizer generates a stream of audio wave data in response to a  
3 synthesizer instruction.

4  
5           **31. (original)**   An audio generation system as recited in claim 25,  
6 wherein the synthesizer generates a stream of audio wave data in response to a  
7 MIDI instruction.

8  
9           **32. (original)**   An audio generation system as recited in claim 25,  
10 further comprising a second synthesizer to generate additional streams of audio  
11 wave data, and wherein the individual logical bus is configured to receive one or  
12 more of the additional streams of audio wave data and route the additional streams  
13 of audio wave data to the audio wave data consumer.

14  
15           **33. (original)**   An audio generation system as recited in claim 25,  
16 further comprising a second synthesizer to generate additional streams of audio  
17 wave data, and wherein a second logical bus is configured to correspond to the  
18 audio wave data consumer, receive one or more of the additional streams of audio  
19 wave data, and route the additional streams of audio wave data to the audio wave  
20 data consumer.

21  
22           **34. (original)**   An audio generation system as recited in claim 25,  
23 further comprising a data structure to correlate which of the logical buses  
24 correspond to an audio wave data consumer.  
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1  
2       **35. (original)** An audio generation system as recited in claim 25,  
3 further comprising a data structure to correlate which of the logical buses  
4 correspond to an audio wave data consumer, wherein the audio wave data  
5 consumer receives streams of audio wave data from the corresponding logical  
6 buses.

7  
8       **36. (currently amended)** A system, comprising:  
9 a plurality of logical bus objects configured to receive audio wave data,  
10 wherein each logical bus object corresponds to an audio wave data consumer,  
11 wherein each logical bus object is dynamically ~~allocated~~ generated in response to a  
12 need associated with receiving the audio wave data, and wherein at least one of the  
13 logical bus objects can be dynamically ~~deallocated~~ released when no longer  
14 needed to route a stream of audio wave data;

15 a data structure that correlates each logical bus object according to a  
16 function of an audio wave data consumer that corresponds to a logical bus object;  
17 and

18 wherein one or more streams of audio wave data are assigned to a logical  
19 bus object based on the function of an audio wave data consumer that corresponds  
20 to the logical bus object.

21  
22       **37. (original)** A system as recited in claim 36, wherein a logical bus  
23 object receives one or more of the assigned audio wave data streams and routes the  
24 audio wave data streams to the corresponding audio wave data consumer.  
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1  
2       **38. (previously presented)** A system as recited in claim 36, further  
3 comprising a synthesizer that generates a plurality of streams of audio wave data,  
4 wherein at least one of the streams of audio wave data is provided to different  
5 respective logical buses.

6  
7       **39. (original)** A system as recited in claim 36, further comprising a  
8 synthesizer that generates the one or more streams of audio wave data in response  
9 to a MIDI instruction.

10  
11       **40. (original)** A system as recited in claim 36, further comprising an  
12 audio wave data generation object configured to receive audio content and an  
13 instruction to generate the one or more streams of audio wave data.

14  
15       **41. (original)** A system as recited in claim 36, wherein each logical  
16 bus object corresponds to a single audio wave data consumer.

17  
18       **42. (original)** A system as recited in claim 36, wherein at least two  
19 of the logical bus objects correspond to the same audio wave data consumer.

20  
21       **43. (original)** A system as recited in claim 36, wherein a plurality of  
22 audio wave data streams are assigned to at least one of the logical bus objects.  
23  
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1           **44. (previously presented)**   A data structure for an audio processing  
2 system, comprising:

3           a bus identifier parameter to uniquely identify a logical bus that  
4 corresponds to an audio wave data consumer;

5           a function identifier parameter to identify an effects-processing function of  
6 the audio wave data consumer;

7           a programming reference to identify the audio wave data consumer; and

8           wherein at least one stream of audio wave data is routed to a plurality of  
9 different logical buses, with the bus identifier parameter being defined according  
10 to the function identifier parameter of the corresponding audio wave data  
11 consumer.

12  
13           **45. (currently amended)**   A method, comprising:

14           providing an audio wave data generation component configured to receive  
15 audio content and an instruction to generate one or more streams of audio wave  
16 data;

17           providing an audio wave data consumer component configured to receive  
18 the one or more streams of audio wave data;

19           dynamically ~~providing~~ generating at least one logical bus component in  
20 response to a need associated with receiving the streams of audio wave data, the  
21 logical buses configured to route the one or more streams of audio wave data to  
22 the audio wave data consumer component; and

23           dynamically ~~deallocating~~ releasing at least one of the logical buses when no  
24 longer needed to route a stream of audio wave data.  
25

1  
2       **46. (original)**   A method as recited in claim 45, wherein the audio  
3 wave data generation component is a synthesizer.

4  
5       **47. (original)**   A method as recited in claim 45, wherein the audio  
6 wave data consumer component is a data buffer that performs an action of  
7 buffering audio wave data.

8  
9       **48. (original)**   A method as recited in claim 45, wherein the audio  
10 wave data consumer component performs an action of effects-processing the audio  
11 wave data.

12  
13       **49. (previously presented)**   A method as recited in claim 45, further  
14 comprising assigning a given one of the streams of audio wave data to a plurality  
15 of different logical bus components.

16  
17       **50. (original)**   A method as recited in claim 45, further comprising  
18 assigning one or more of the streams of audio wave data to the logical bus  
19 component.

20  
21       **51. (original)**   One or more computer-readable media comprising  
22 computer-executable instructions that, when executed, direct a computing system  
23 to perform the method of claim 45.  
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1       **52. (currently amended)**     A method, comprising:  
2       receiving multiple streams of audio wave data;  
3       dynamically ~~defining~~ generating logical buses in response to a need  
4       associated with receiving the streams of audio wave data, the logical buses each  
5       corresponding to an audio wave data consumer;  
6       creating a data structure and designating which of the logical buses  
7       correspond to an audio wave data consumer;  
8       assigning at least one of the multiple streams of audio wave data to a  
9       plurality of the logical buses;  
10      routing an audio wave data stream assigned to a particular logical bus to the  
11      audio wave data consumer corresponding to said particular logical bus; and  
12      dynamically ~~deallocating~~ releasing at least one of the logical buses when no  
13      longer needed.

14  
15      **53. (original)**     A method as recited in claim 52, wherein a plurality of  
16      audio wave data streams are assigned to at least one of the logical buses.

17  
18      **54. (original)**     A method as recited in claim 52, wherein each logical  
19      bus corresponds to a single audio wave data consumer.

20  
21      **55. (original)**     A method as recited in claim 52, wherein at least two  
22      of the logical buses correspond to the same audio wave data consumer.  
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1           **56. (original)** One or more computer-readable media comprising  
2 computer-executable instructions that, when executed, direct a computing system  
3 to perform the method of claim 52.  
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